



# Stager VSpeed

VS4000 VS4800 VS8000

## User Manual

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Notes: All the interpretations in this manual will be given on WindowsXP platform. However it is similar in other cases.

## 1 Brief introduction of VSpeed device programmer software

The software of VSpeed device programmer is developed by Shenzhen Stager Electronic CO.,LTD. It supports 3 hardware as following: VS4000, VS4800 & VSD8000, and automatically identifies the hardware plugged in. It works stably on Windows2K, WindowsXP, WindowsVista & Windows7. It supports multiple languages and can be changed anytime by user. VSpeed has a friendly interface, and its using is very easy. In most cases user don't need to change the default set which is given while user select one device. In another hand, VSpeed provided many functions which are very useful for super users. Such as auto start, auto ID engine, save & open project file etc.

Following are the pictures of 3 hardware:



**Picture of VS4000**



**Picture of VS4800**



**Picture of VSD8000**

## 2 Introduction of the hardwares

The 3 model of hardwares supported as following table:

Model	VS4000	VS4800	VSD8000
Dimension	146mm*113mm*25mm	149mm*117mm*33mm	170mm*105mm*34mm
Unit Weight (include packaging)	0.42KG	0.48KG	0.6KG
Locking Socket	40 pins (common )	48 pins (DDK high quality).	48 pins (DDK high quality)
Driven pins on socket in power	Part of 40 pins	Part of 48 pins but more than VS4000	All pins
Interface	USB 2.0	USB 2.0	USB 2.0
Power supply	By USB of computer	By USB of computer	9V DC power adapter
Indicator	LED indicator	LED	LED , Buzzer
LCD Display	No LCD	No LCD	LCD display
Work off-line	No	No	Yes(64Mbits storage )

Operating key	No	No	Yes
Update	Updated by software (if the hardware can provide needed power & the programming timing wave of the device you want to add is known)	Updated by software (if the hardware can provide needed power & the programming timing wave of the device you want to add is known)	Updated by software (if the programming timing wave of the device you want to add is known)
Gane programming umbers	1	1	1 or 2 or 4 (depend on pin numbers of the device)

### 3. Setup of VSpeed

Recommend: Don't plug in the hardware to the USB interface of your computer before the software has been set up.

#### 3.1 Setup steps:

Following is the process about the VSpeed setup. The process example is on WindowsXP. The USB Driver of VSpeed will be automatically installed at the end of setup.

(1) Dblclick the VSpeed.exe to launch the setup in the folder VSpeed of the disk. The window is showing as Figure 1.

(2) Click "Next" button. The window as Figure 2 is showing. You can fill your name & the name of your company. However you can accept the default information.

(3) Click "Next" button. The window will be changed to Figure 3. You can specify the setup location in here or accept the default. And then click the "Next" button to go on

(4) When the window come into an Figure 4, you can specify the Shortcut Folder or accept the Default. Click the "Next" button the window change as Figure 5.

(5) Now all the informations are ready to install.

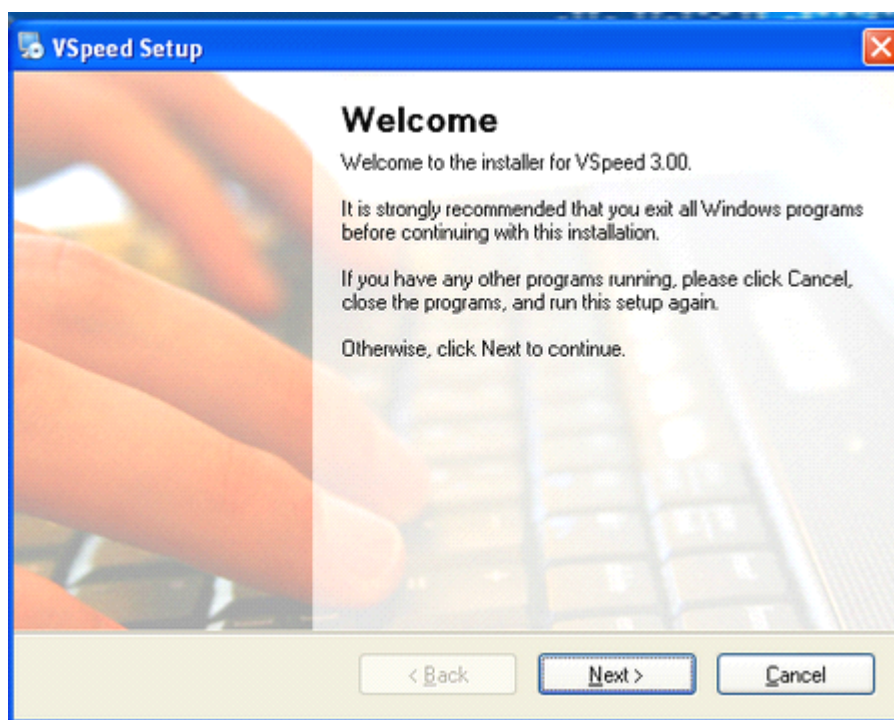


Figure 1: VSpeed Setup Launch

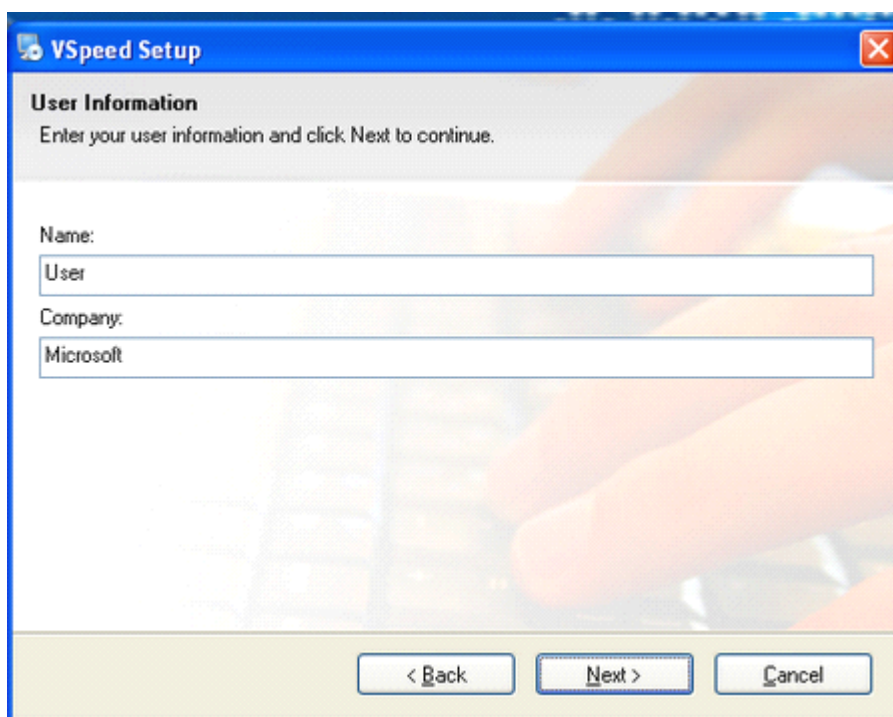


Figure 2: VSpeed Setup Enter the user information

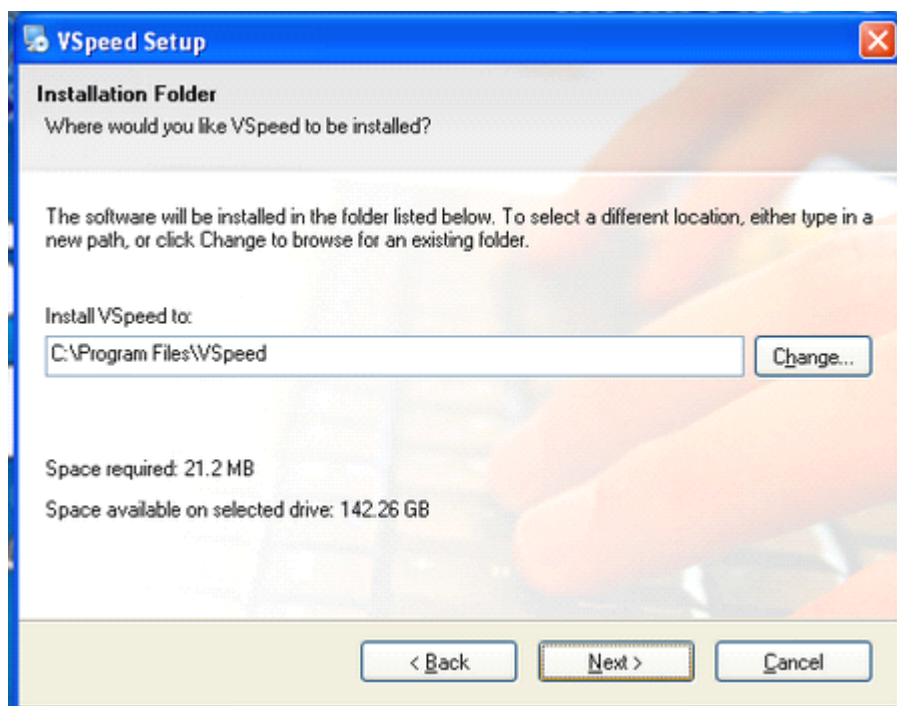


Figure 3: VSpeed Setup Setup Location

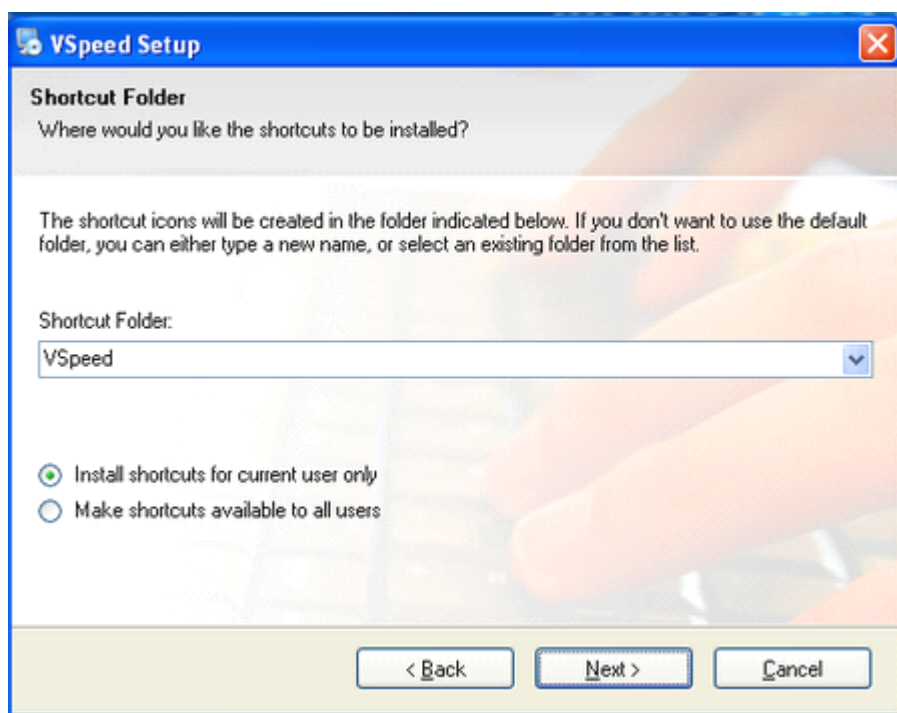


Figure 4: VSpeed Setup Specify Shortcut Folder

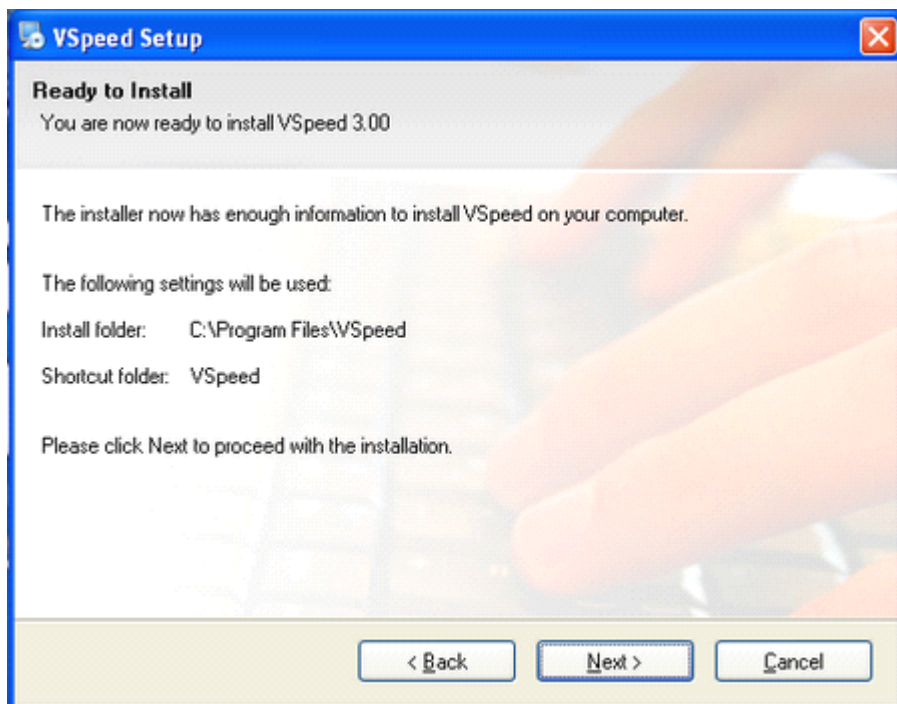


Figure 5: VSpeed Setup Ready to install

In the Figure 5, you can click “Back” button to change some information. And you can click the button “Next” to go on if you accept all of these. The installation is launching if you click the “Next”. It will show as Figure 6.

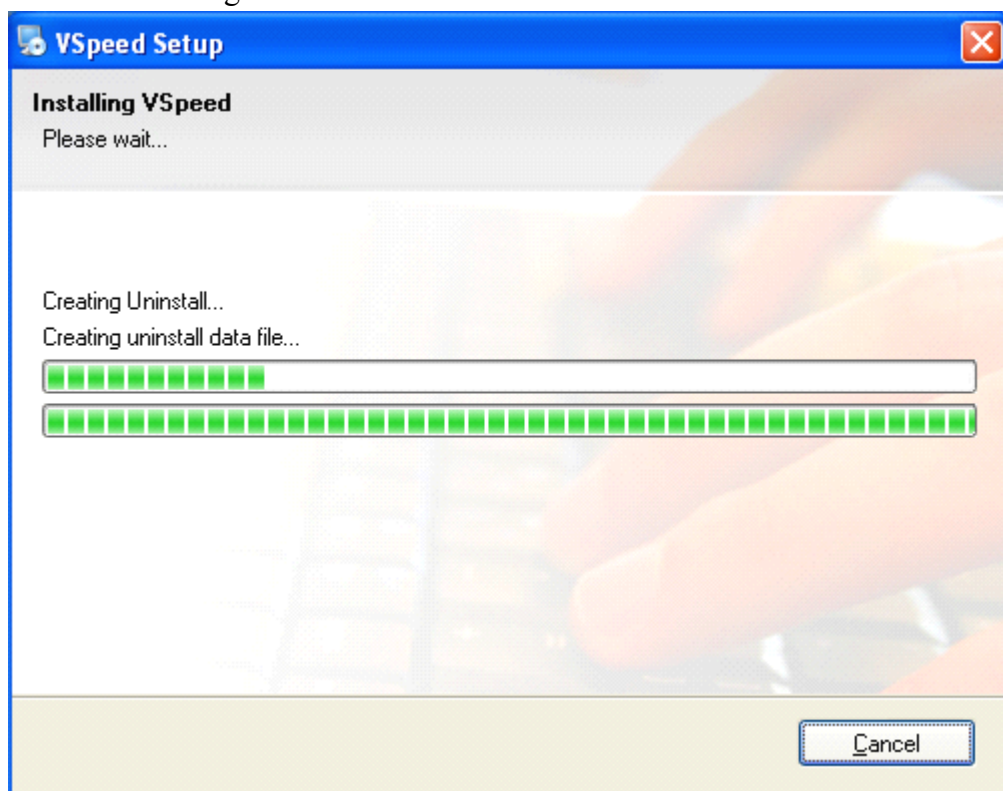


Figure 6: VSpeed Setup Installing...

(6) With the completion of the installation of VSpeed, The Window will be showing as Figure 7. It will guide you to pre-install the USB Driver.

You don't need change any default. Click "Install" button to start the installation. You should please accept all asks in the process until it finish.

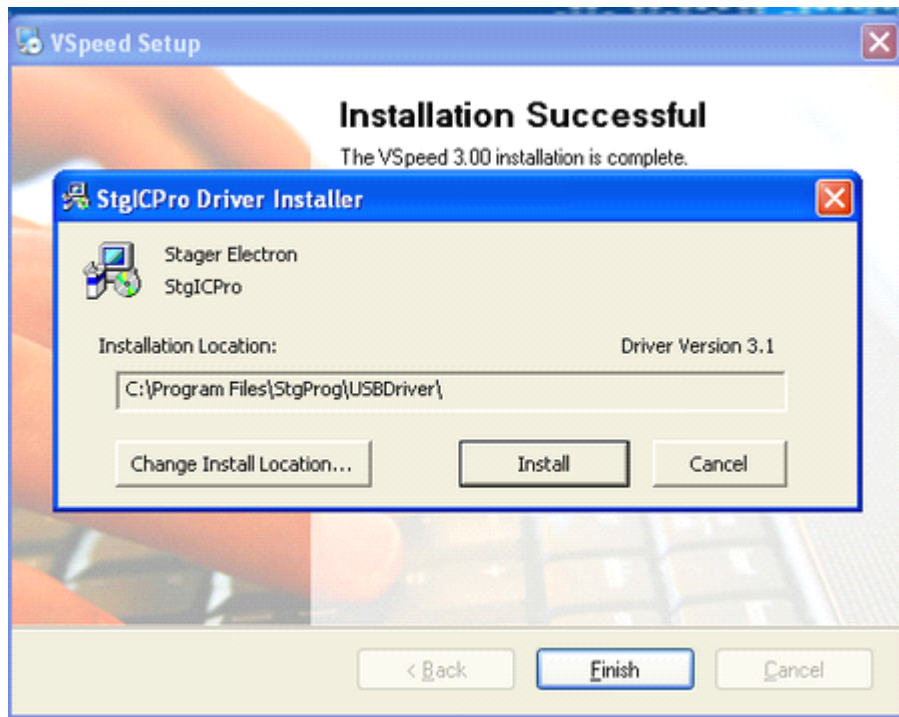


Figure 7: VSpeed Setup USB Driver Pre-install

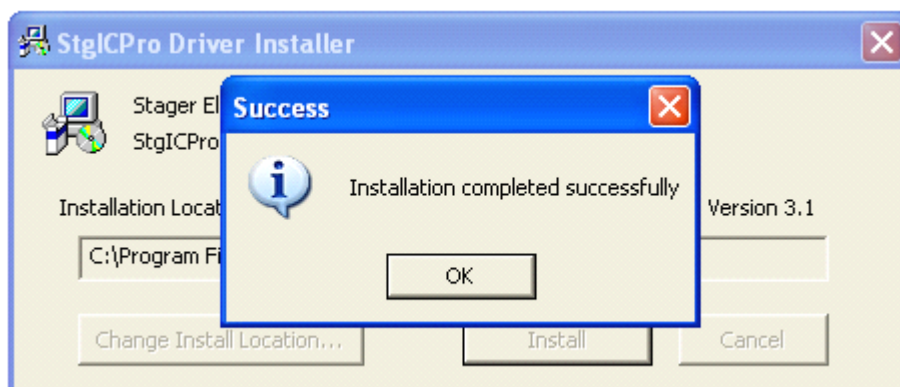


Figure 8: VSpeed Setup USB pr\_Installation Finished

(7) Click Button "OK" to finish all of the setup process.

(8) Plug the Programmer in to the USB of your computer. And you should turn on the power in the case of VSD8000. The “Found New Hardware” window as following Figure 9 appear in the Lower\_Right of the Windows and then it change to Figure 10 soon.

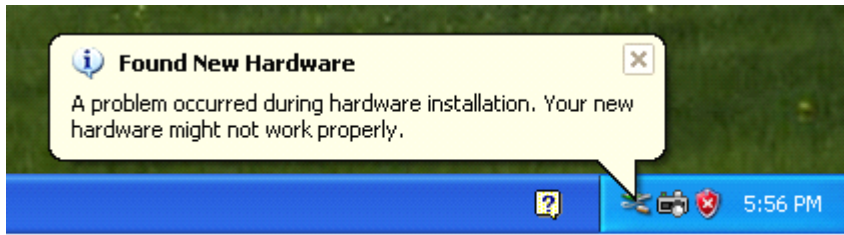


Figure 9: VSpeed setup Found New Hardware



Figure 10: VSpeed setup Found New Hardware

And then you can select “Yes, now and every time i connect a device” when the Figure 11 window appeared and then click the “Next” button.



Figure 11: VSpeed setup Found New Hardware Wizard

(9) You can select “Install the software automatically” when Figure 12 window appeared

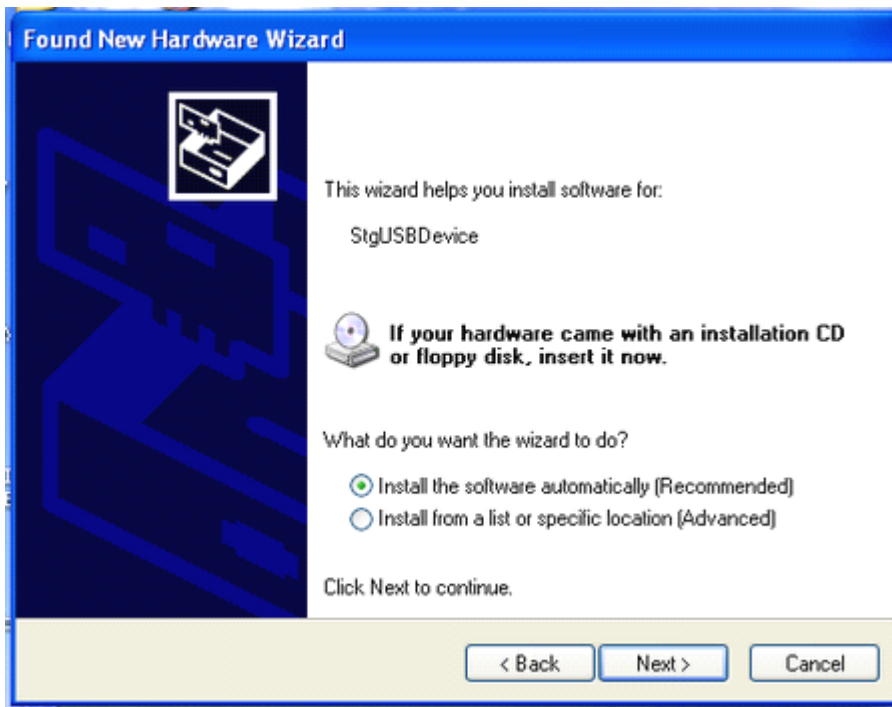


Figure 12: VSpeed setup Found New Hardware Wizard

(10) Click “Next” button the installation will be launched.

(11) The Following window will appear. You can click the “Finish” button to finish all the installation process.

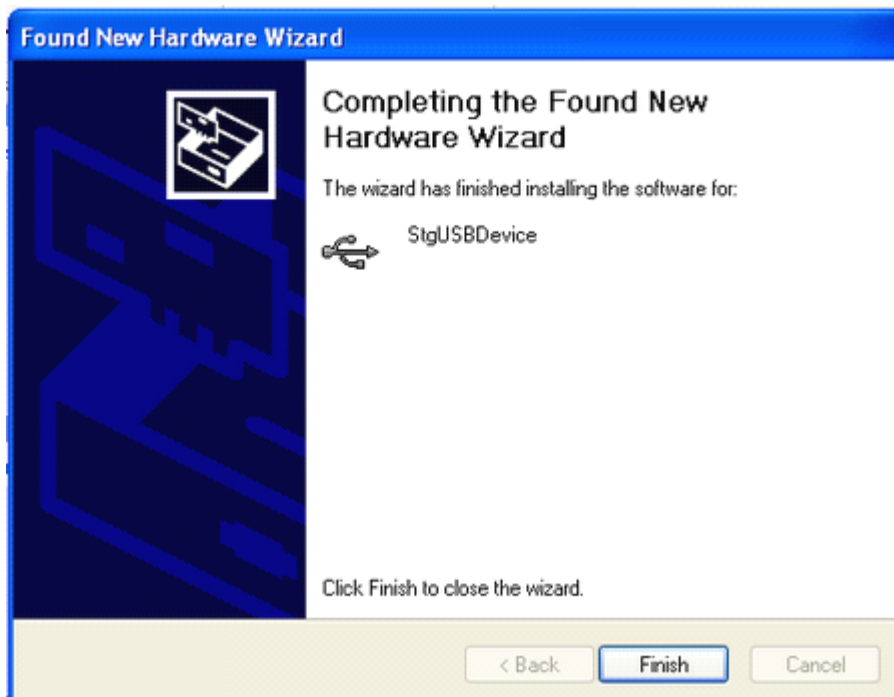


Figure 13: VSpeed setup Found New Hardware Wizard

(12) After you click the “Finish” button, the information as following will appear at the Lower\_Right corner of the Windows.

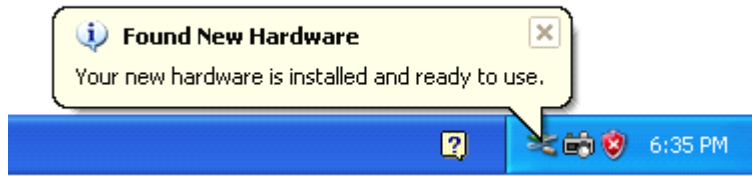


Figure 14: VSpeed setup USB Installed

Congratulate you! You have finished all setup steps.

### 3.2 Has the USB driver installed correctly ?

You can click the “My Computer” Shortcut on the Desk after plug the hardware in the computer.

In My Computer window, you should click View system information.

Then click “Hardware” label and then click the “Device Manager” button in the System properties window.

The following window will appear. (Figure 15 or Figure 16)

The installation is success if Figure 15 you see, and unsuccess if Figure 16 you see.

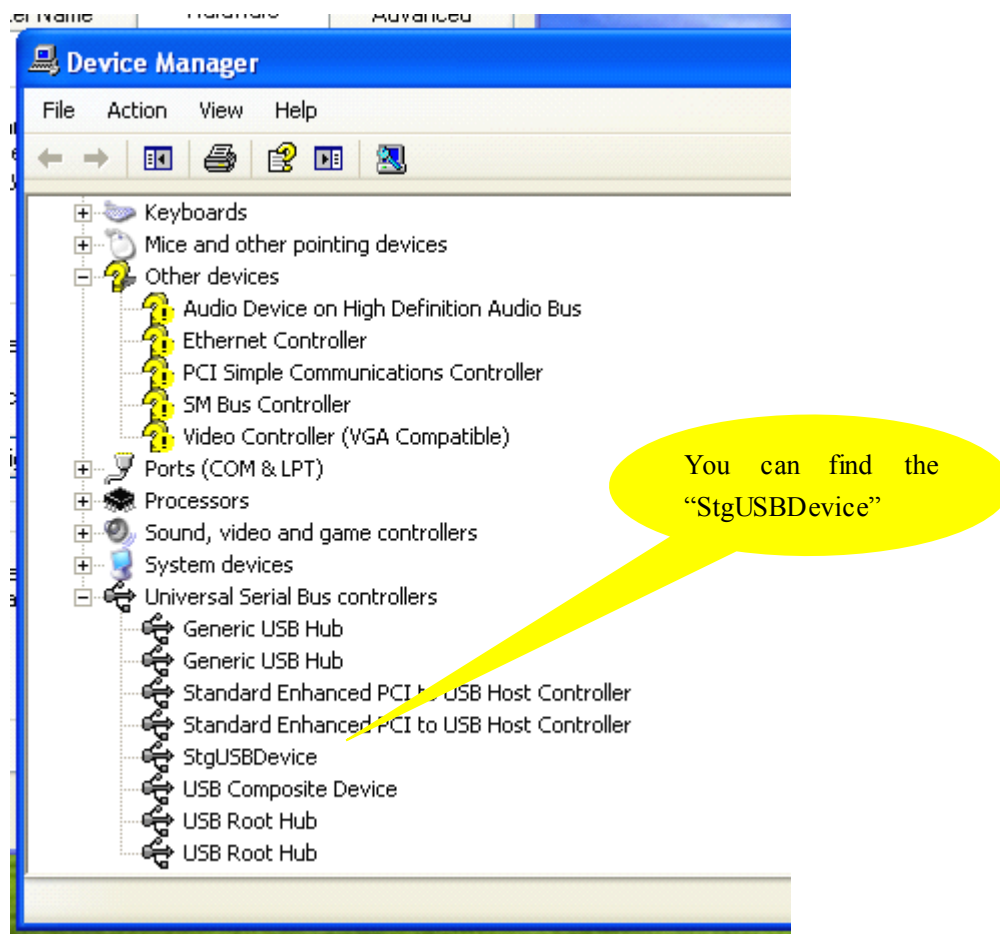


Figure 15: WindowsXP Device Manager      USB installed success

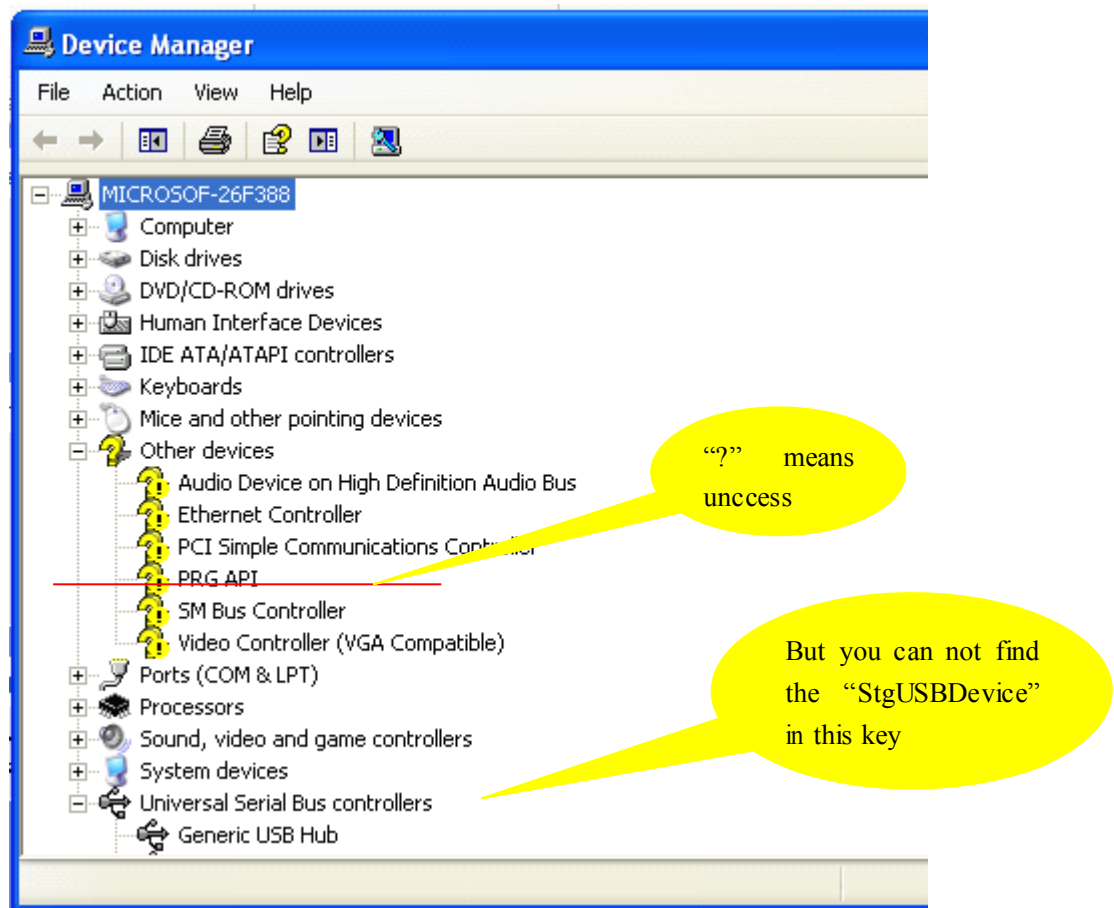


Figure 16: WindowsXP Device Manager USB Driver unsuccess

### 3.3 How to do if USB was installed unsuccess ?

You can right click the PRG API in the Figure 16. And then select “Update Driver...” . Then go on...

## 4. The usage of VSpeed

Recommend: Although that VSpeed can automatically identify the programmer model plugged whil it is running, we recommend you plug in it before you launch the VSpeed.

You can select the language by Menu\_Set.... if current language is not you needed.

## 4.1 Main interface introduction of VSpeed software

There are a main interface and many internal windows of the software. First of all, introduce you the main interface. The internal windows will be introduced while discuss that function.

The main interface contains a main Menu, a main tool bar, a Condition display area, a Data Buffer information display area, a setting tool bar, an executing tool bar, an operating information display area, and the counter, progress bar etc.

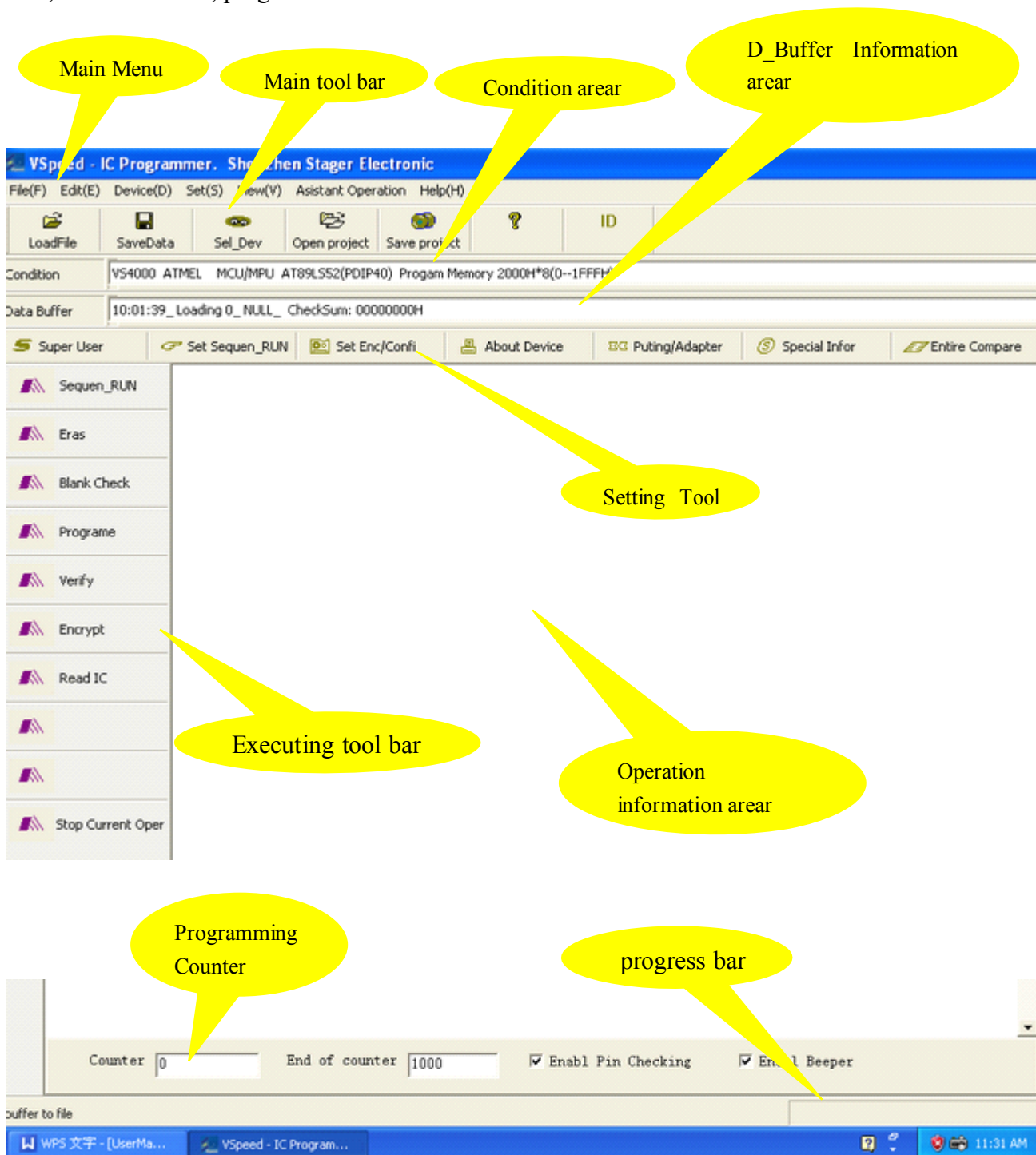


Figure 17: Main Interface

#### 4.1.1 Main Menu

The main Menu of the VSpeed contains 7 drop-down submenus. They are File, Edit, Set, View, assistant and Help. Every operation entries can be found in the main menu. But all the frequent functions they are found at the Main tool bar, and the Set tool bar and the Executing tool bar.

#### 4.1.2 Main Tool bar

It contains 5 keys: Load File, Save Data, Select\_Dev(select device), Open project, Save project.

First of all you should select one device supporting from the software. This selecting has to do with the device you want to program. Then you can load the data from the data file by Load File key (or Read from the device. Refer to the Executing tool bar)

#### 4.1.3 The Condition Area:

The information about model of the programmer Hardware currently connected, the device currently selected, the memory space of the device etc. They are displayed at here.

#### 4.1.4 The D\_Buffer Information area:

The information about the data buffer is displayed at here. The data in the data buffer will be just written to the device.

#### 4.1.5 The setting tool bar:

It contains 7 keys: Super User, Set Sequen\_Run (Sequent Running), Set Enc/Confi (Encrypt/Configuration), About Device, Put/Adapter, Special Infor (Special information) and Entire Compare.

**The Super User key:** By clicking this key, you can set some super functions they are if you want to use automatically start, if you want to use the automatic ID engine, etc. Refer to the chapter about super user.

**Set Sequen\_Run:** First of all let me introduce you about Sequent Running. The first key is Sequen\_Run on the Executing tool bar. Multi-steps will be executed in sequence if you click the Sequen\_Run key. There is a default sequence executing steps for every device selecting. You don't need to change the default sequence in usually. However you can do the changing by clicking the Set Sequen\_Run in the setting tool bar if you want to do.

**Set Enc/Confi:** Some devices they have to write the encryption or configuration

information to it. The detail parameters of the information can be set by click the Set Enc/Confi

**About Device:** Click it you can see the information about the device currently selected.

**Put/Adapter:** By clicking it you can see the drawing which show you how to put the device on the locking socket and what model of adapter be used and how to use it if the adapter is needed for the device.

**Special Infor:** By click it you can get some special information.

**Entire Compare:** There is a Verify key at the Executing tool bar. It's function is verifying between the Data Buffer of the software and the data of the device just written. The verifying progress will stop when only one difference is found. However, the Entire Compare, it's different from the Verify. It entire compare two data buffers of the software. The progress don't stop even if the differences are found. Then mark all difference with red after the progress is finished. Both the two data of the data buffers can be loaded from data file or read from device. So you compare between a file and another file, or between a file and a device, or between a device and another device. Refer to Entire Compare chapter for detail.

#### 4.1.6 The Executing tool bar

All the operation to the hardware are executed by clicking the key on the Executing tool bar. There are some keys on the tool bar. And the containing keys on the tool bar might be different for every device selected. However the Sequen\_Run (Sequence running) key and the Stop Current Oper (operation) key are always had. When you click the Sequen\_Run key, many sequence operation steps will be executed automatically. And the steps list can be arranged by user by clicking the Set Sequen\_Run key on the setting bar (refer to the setting tool bar on above). The Stop Current Oper key is used to top the current operation which is only on the Executing tool bar.

The keys after the Sequen\_Run key are single function keys. A single operation is executed when click any one of them.

#### 4.1.7 Operation information arear

Any informations such as initialing, executing, and result etc, they are displayed here.

#### 4.1.8 Programming Counter

This counter count the devices that have been programmed correctly. It is increment **after that the verifying is correct.**

## 5 Getting Start

Following example is programming the AT89S51 DIP40 on WindowsXP and on VS4000.

**Step 1 Select the device supporting:** First of all you should select a device matching with the device you want to programmed. By click the Sel\_Dev key on the main tool bar, the “SelectDevice” Window will appear. Select Device Class depend on the device. In this example, the AT89S51 is a MCU, so click MCU radio button. Select the Manufacturer as ATMEL. Then select the Device ID as AT89S51(DIP40). See the Figure 18.

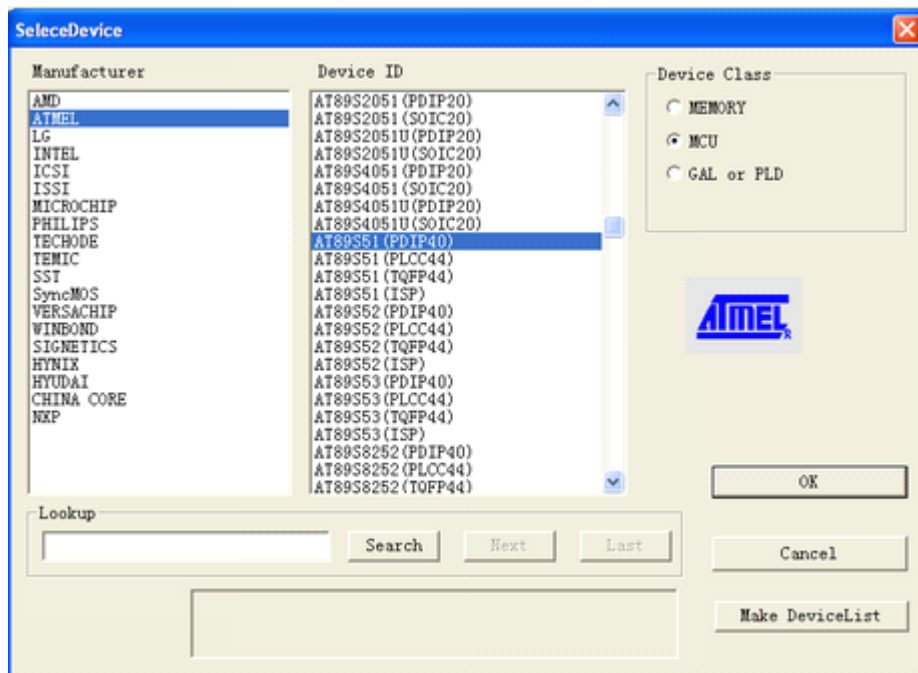


Figure 18 Getting Start                      Select Device

After you click the “OK” button, the Socket Mode widow will appear automatically. See the Figure 19. Any time you can view the window bu click the Putting/Adapter button on the Setting bar.



Figure 19 Getting Start

Socket Mode

Note: In the case of that the hardware is VSD8000, after you clicked the "OK" button as above, might the window same as Figure 20 will appear if the pin number of the device is less than 24 (or less than 12). You can set the Gang programming device numbers in one time. It is 1 or 2 or 4. You should select.

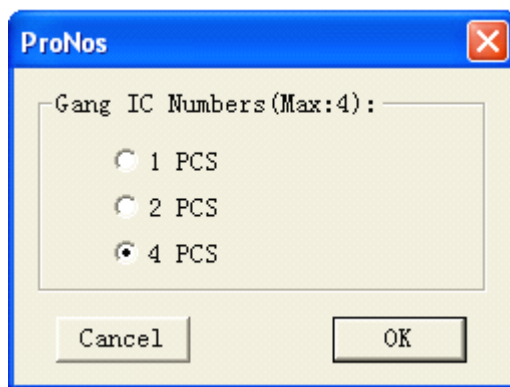


Figure 20: Getting Start

Gang Numbers setting of VSD8000

After you click the OK button, the following window will show you how to put the device.



Figure 21: Getting Start Socket mode of VSD8000

In the case that you know only the Device ID, you can fill the Device ID characters, all of or part of the characters, in to the Search area. You should fill more than 3 of the characters. Then click the Search button. The searching result will be displayed at the box of the Select Device window. See Figure 22

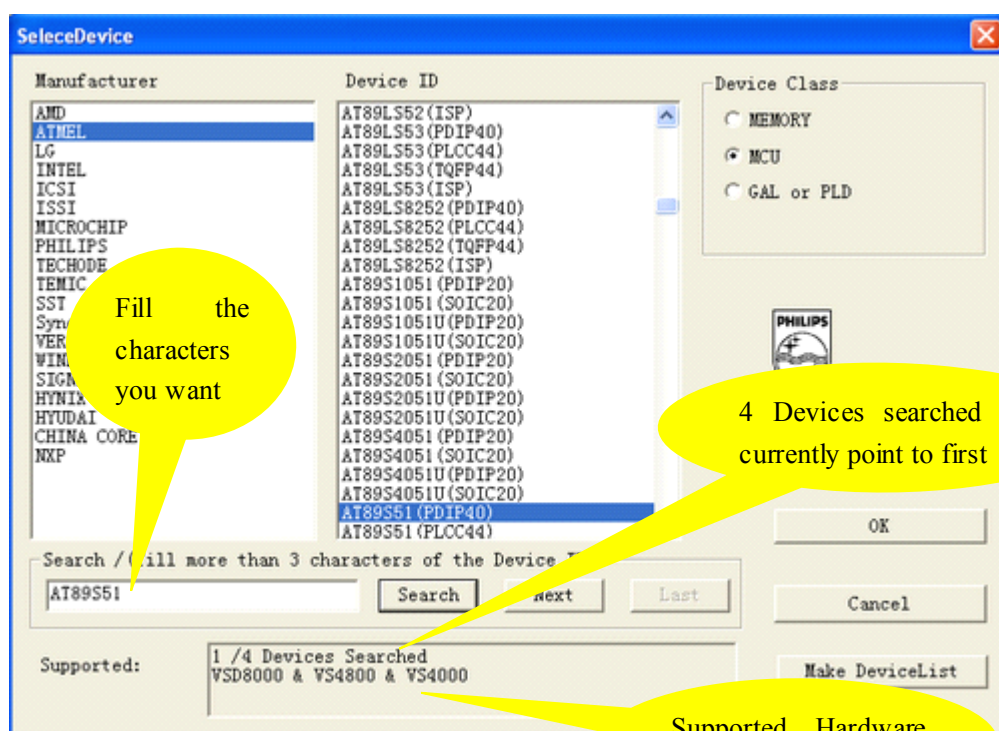


Figure 22: Getting Start Fuzzy search

In the Figure 20, you can change the pointed Device ID by click the Next or Last button, then click the OK button to confirm the final selection.

### Step 2 : Set the Running Sequence.

After you selected a device, there is a set of executable functions which showed on the main tool bar. The Sequen\_Run button is a specific one. There are a group sequence functions will be executed when click this button. This group sequence functions are defaulted while you select a device. As a rule you don't have to change the defaulted status. However you can rearrange the numbers or sequence of the functions if it is necessary. You can click the Set Sequen\_Run button on the Setting tool bar to do it.

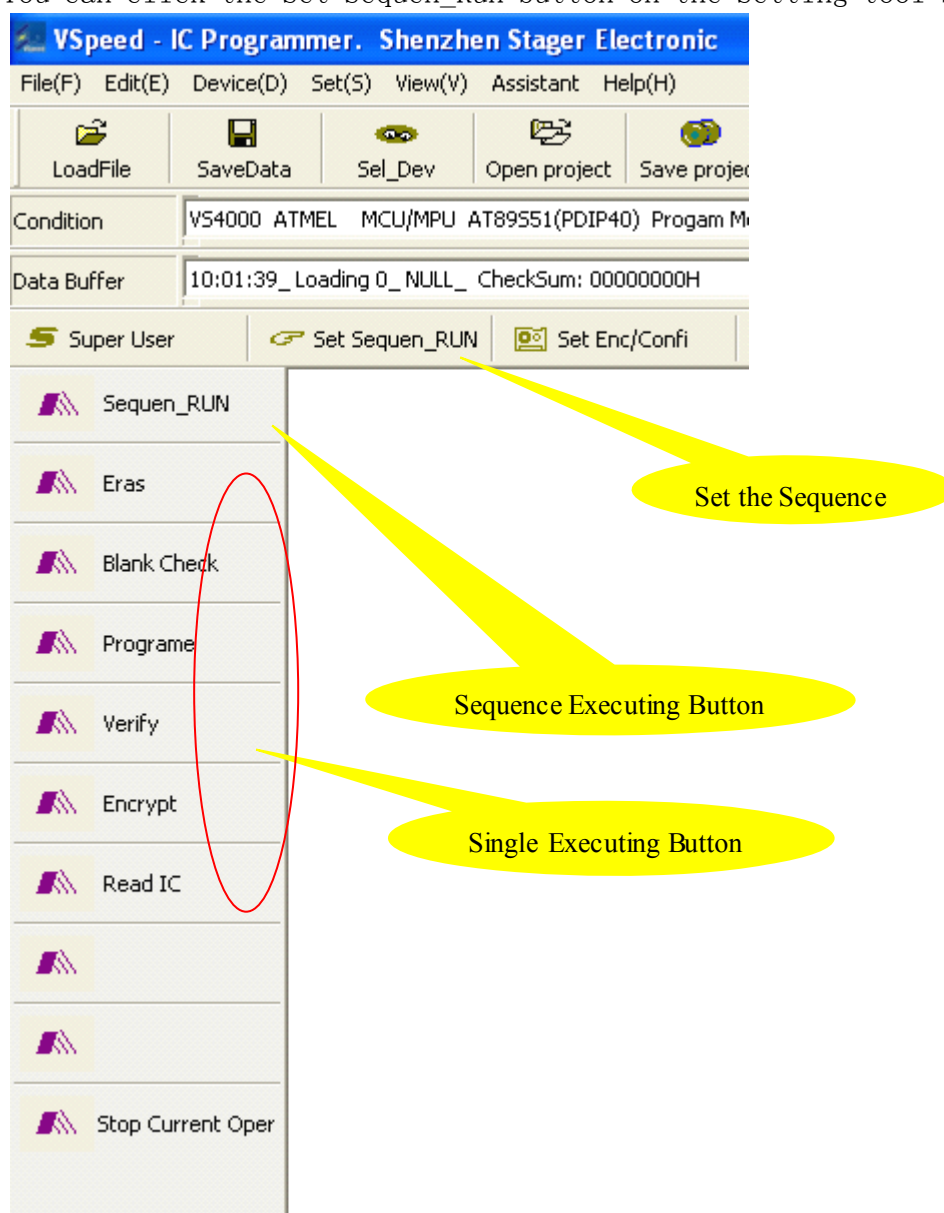


Figure 23: Getting start Set the Sequence

**Step 3:Load the data (Load for the data file or Read from the sample device):**

The VSpeed create a data buffer for the selected device. The data in this data buffer is writing to the device. Before you can program the device, you have to fill the data to the buffer by loading the data file or reading from one sample device which is not encrypted. If you want to load a data file, you can click the LoadFile key on the main tool bar. Then the “Open” window is appearing you. Please find and select your file location in this widow.

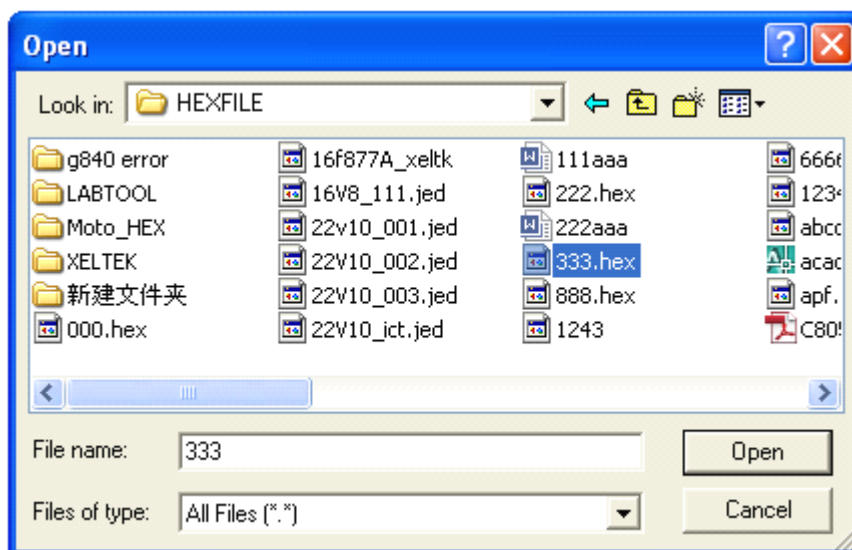


Figure 25: Getting Start Loading File

The LoadingFileSetting window is appearing after you clicket the OK button. Usually, you don' t need change any the status in this window. Clicket the OK button, the DataDuffer window is showing as Figure 27

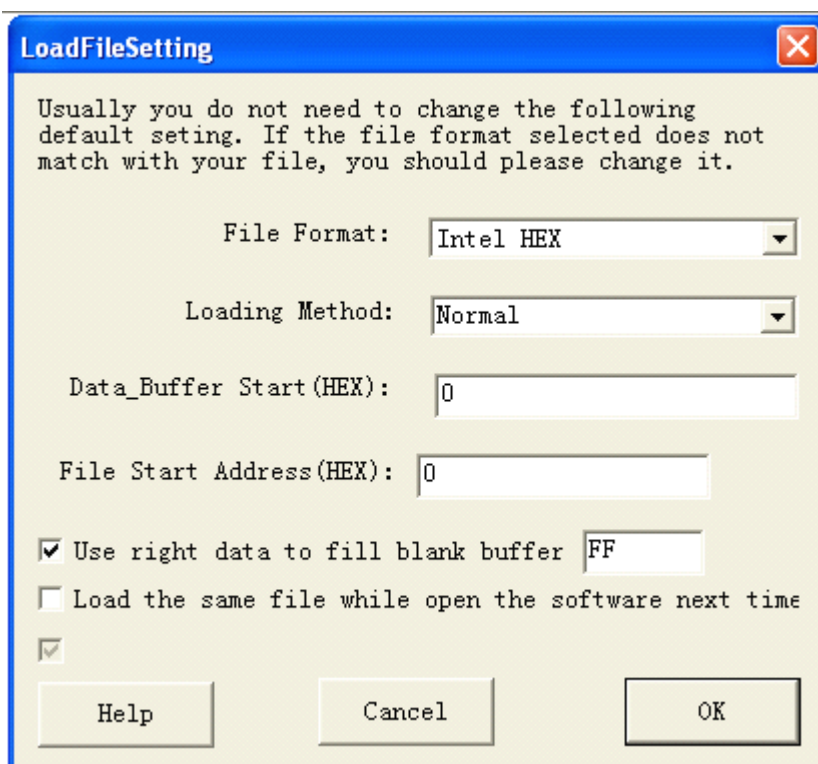


Figure 26: Getting Start Loading file setting

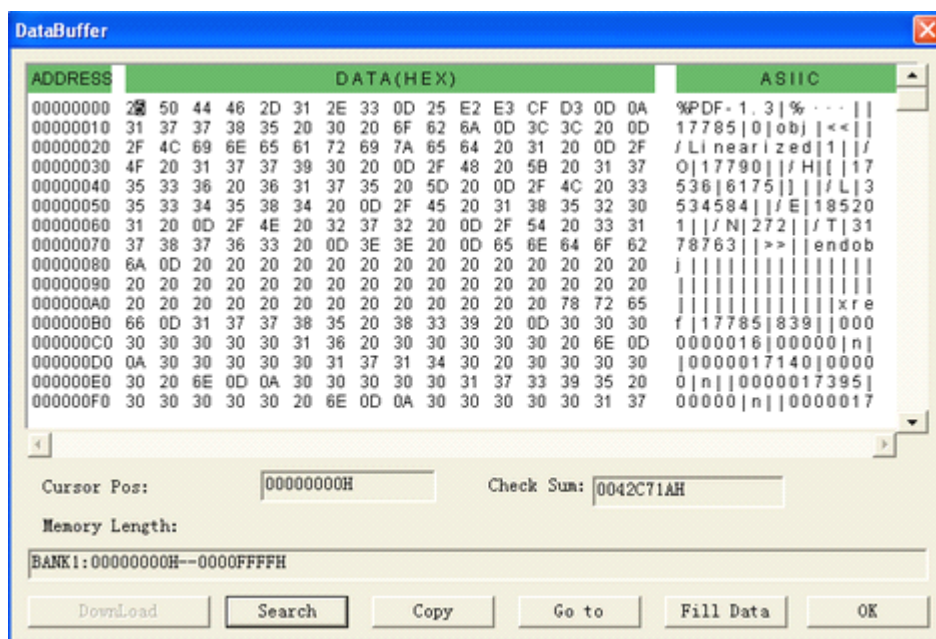


Figure 27: Getting Start Data Buffer

The VSD8000, it can work in Off\_Lide. So in case of VSD8000, there is a check box which is “Down Load data to Hardware” in LoadFileSetting window.

Note: Some of devices that it's a example is PIC16F877, it have many information about configuration. These information were included while create the data file(HEX file). Also they will be loaded automatically while you load the data file. However the following information will be appeared if the configuration information have been not found in the data file.

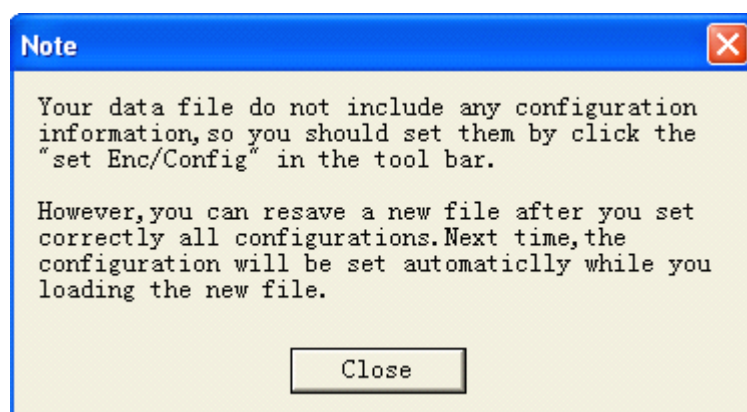


Figure 28: Getting Start Note window

You can click the Set Enc/Config key in the setting tool bar then go on.... Refer to Step 4;

#### Step 4: Set the encryption the Configuration :

The devices, they have to set the Encryption or Configuration, them's encryption or configuration have to set by user self if they are not included in data file. You clicket the Set Enc/Config key in the setting tool bar. and then go on. See Figure 29

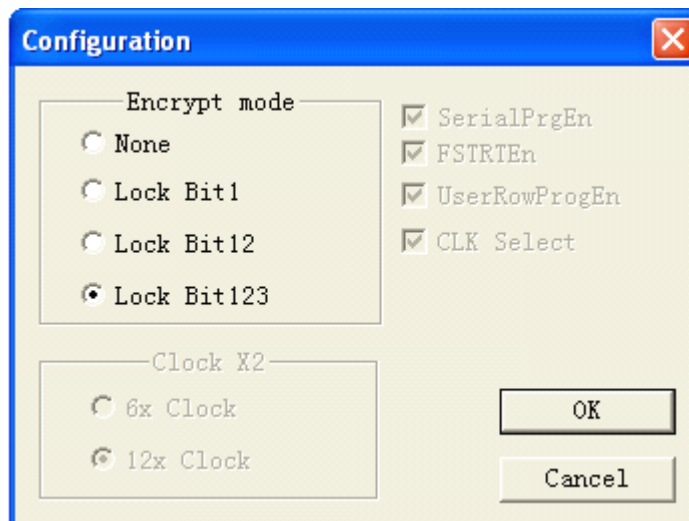


Figure 29: Getting Start Configuration

Note: We are sorry to tell you, we can not help you to set the encryption or configuration parameters. These are depend on your application.

All the status information from step 1 to step 4 were saved automatically in to the template file. In the next time you launch the software, it resume these statuses

**Step 5: Put the device on the locking socket.** You should please put the device you want to program to the Socket as the Figure 19 or Figure 21 and then lock it.

**Step 6: Program one device:** Now, in order to program one device you need only click the Sequwn\_Run button on the Executing tool bar. The relevant information, results of very executing step, will be displayed in the information arear.

**Step 7: Take off programmed device :** Take off the programmed device from the locking socket. Please note the result displayed in the information displaying area.

**Step 8: Program more devices:** Replay step 5, 6, 7.

## 6. Super User

The VSpeed has many super functions. These functions provide users so much conveniences. You are advised to make full use of them in your application.

## 6.1 Linking two data files by Loading file

You can link two data files to one data buffer of the selected device. Therefore, you should set some default value in the LoadFileSetting window showed while load the file. Following is an example how to link data1.hex & data2.hex

**Step 1:** Load file data1.hex. No need change any default in the LoadFileSetting window.

**Step 2:** Load file data2.hex. Refer to Figure 26, change the value of “Data Buffer Start” to the value equal to the location where is you want to link to. **Don't select the check box “Use right data to fill blank buffer”**

**Step 3:** Click OK button. Now the data1.hex & the data2.hex have been linked to the data buffer of the currently selected device.

## 6.2 Utilize Project file

If your programmer services only one device in a period of time, you don't need care what is the project file. All the informations such as selecting, Sequen\_Run, Configuration etc, they are saved automatically to a template file. The VSpeed repeat all these in next time launching.

A project file is same as the template file. But it is saved by user and it can be named. In order to repeat the condition, it need user open this project.

The user can save the project file for every device. If your programmer services more than one devices and change the servicing time and again, the project files are very useful. You only need open the project file of the device when you want to change a device selecting.

**Recommend:** Please select the check box “Load the same file while launch the the software next time” in the “LoadFileSetting” window. See the Figure 26

## 6.3 Super User window

Click the SuperUser key on the setting tool bar to open the Super User window. There are 4 super functions in the window.

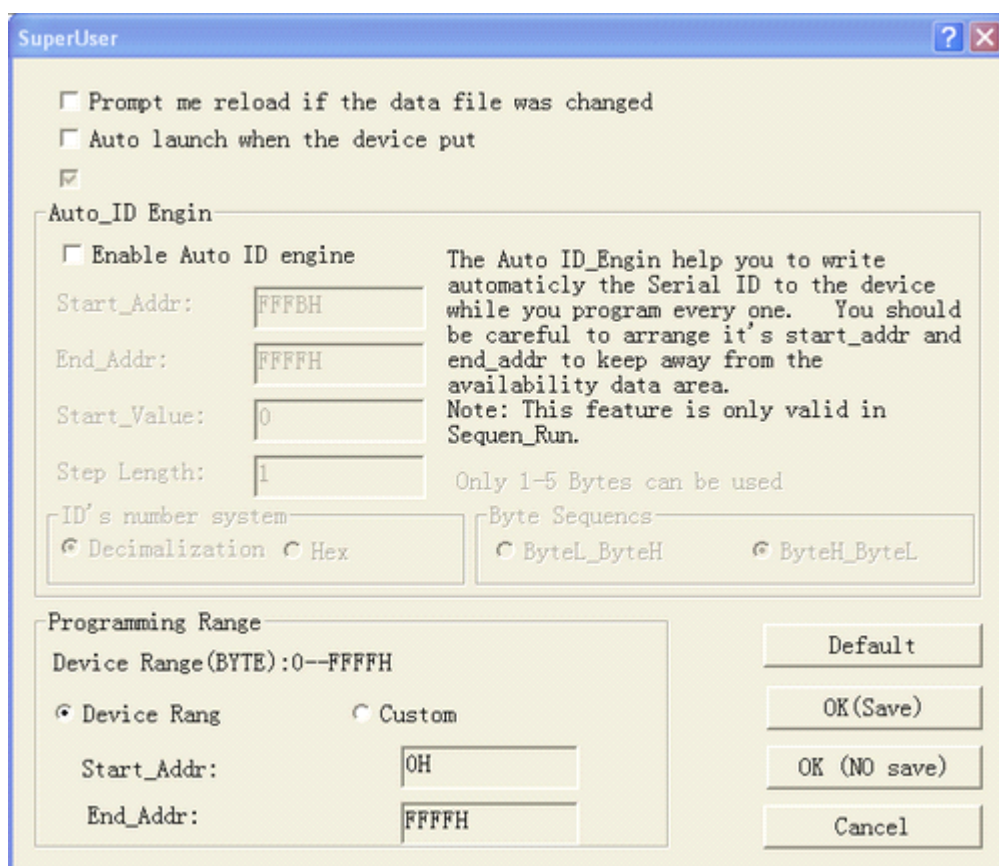


Figure 30: Super User

(1) The check box named “Prompt me reload if the data file was changed”.

If you are just using the programmer for your developing and the data file is changed again and again. You can choose this. The VSpeed will prompt you to reload the data file while you are running any executing function after your data file was changed.

(2) The check box named “Auto launch when the device put ”.

After you choose this function, you don't need to click your mouse to launch the programming progress (click the Sequen\_Run). When you put one device on the locking socket and locked, the programming progress is launching automatically.

(3) Auto\_ID Engin

The Auto\_ID Engin is the function which helps you write the ID to the device with your each programming.

(4) Programming Range:

In most cases you should select the Programming Range as Device Range. If you believe that you only need to program the part of the device, you can select the Custom and then fill the Start address & End address of the programming.

## 7. Dedicated description about VSD8000

VSD8000, it can work on On\_line or Off\_line status. In another hand, it supports gang programming mode. The maximum gang numbers can be 1 or 2 or 4, which is depend on the pin numbers of the device. If your device pin number is more than 24 pins, the maximum gang number is 1. If pin numbers 12 pins to 24 pins, the maximum gang numbers is 2, so you can set the gang numbers as 1 or 2. If the pin numbers is less than 12, it's maximum gang numbers is 4, so you can set the gang numbers as 1 or 2 or 4.



LCD used to display  
some information

K1--Full steps key. It's running steps is  
determined by device and can not be  
changed.

K2--Shortcut key. It's running steps can be  
rearranged by user. (the default steps is same as  
K1).

In order to programming faster, User can delete  
such as Eras etc... In the case of new device.  
See following description for details

## 7.1 Utilization guide of VSD8000

Either On\_line or Off\_line mode, before it can be sued it has to implement such as Select device, Set Encryption/Configuration, Loading file etc. On On\_line mode.

### 7.1.1 On\_line mode

#### Step 1. Select device:

Selecting of VSD8000 is same as VS4000 or VS4800.

Click the Sel\_Dev key on the main tool bar to do it. Note: If the pin numbers is less than 24. the following window will appear. You can set the Gang numbers at here.

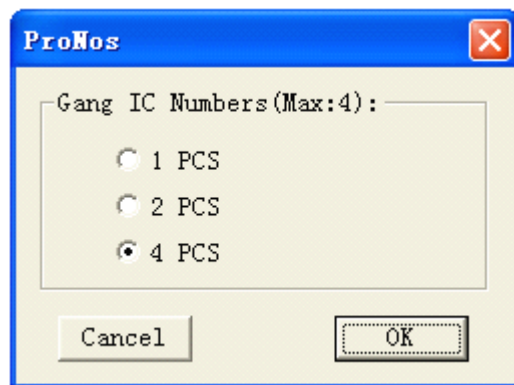


Figure 31 Gang Number window

Click OK button, the window close. and then the following map will appear. It tells you how to put the devices on the socket.



Figure 32: Socket mode on Gang programming mode

Any time you can change the Gang numbers by Device\_Gang Numbers in the Main Menu and can view the socket map by Putting/Adapter key on the Setting tool bar.

### Step 2: Loading data file:

Also it is same as VS400 or VS4800's loading file except that there is a check box named "Download to hardware with the loading" on the Loading file Setting window in the case of VSD8000 .

Note: It is has to be choice if you want to use it on Off\_line mode. The programmer dos not do any operation if you did not download any data file to hardware after you selected one device.

### Step 3: Set the Running Sequence

Refer to page 21 for about running sequence.

There is a default Running Sequence for a device selection. You don't need too change it. However you can change it. Refer to page 21.

The sequence in the right of the following window is effect on On\_line and K2 key on Off\_line. The K2 key is always contain default Running sequence.

### Step 4: Set the Encryption or Configuration

If the selected device has encryption or configuration this step is needed.

### Step 5: Programming

Put the devices on the socket according to Figure 32. Then click the Sequen\_RUN button. The operation is beginning.

#### 7.1.2 About Result displaying

After the operation is finished in the step 5, the results will appear in the main window as following figure:

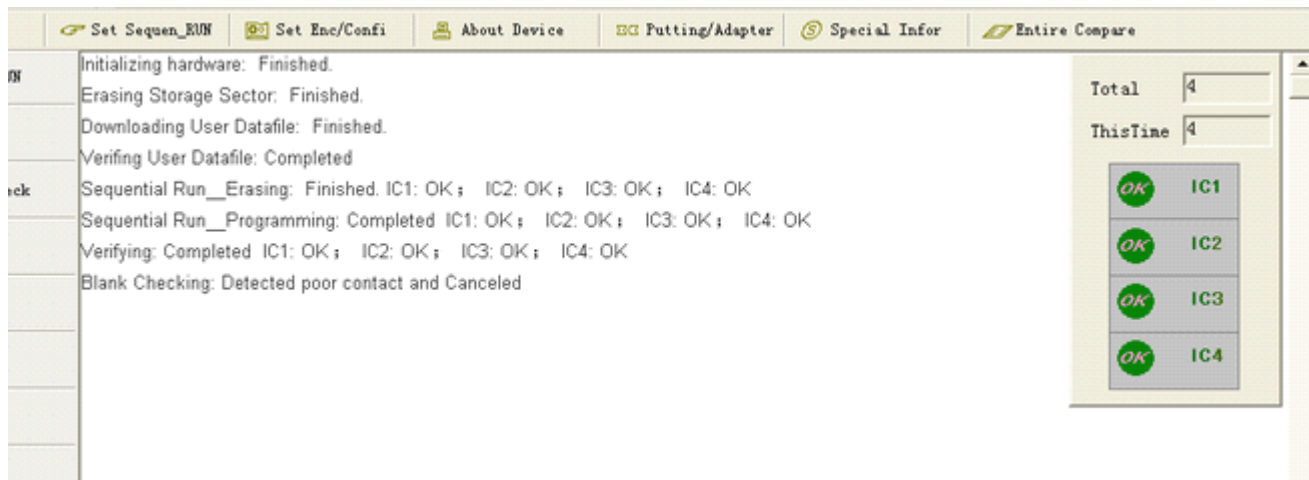


Figure 33: Result displaying All OK



Figure 34: IC3 poor contact

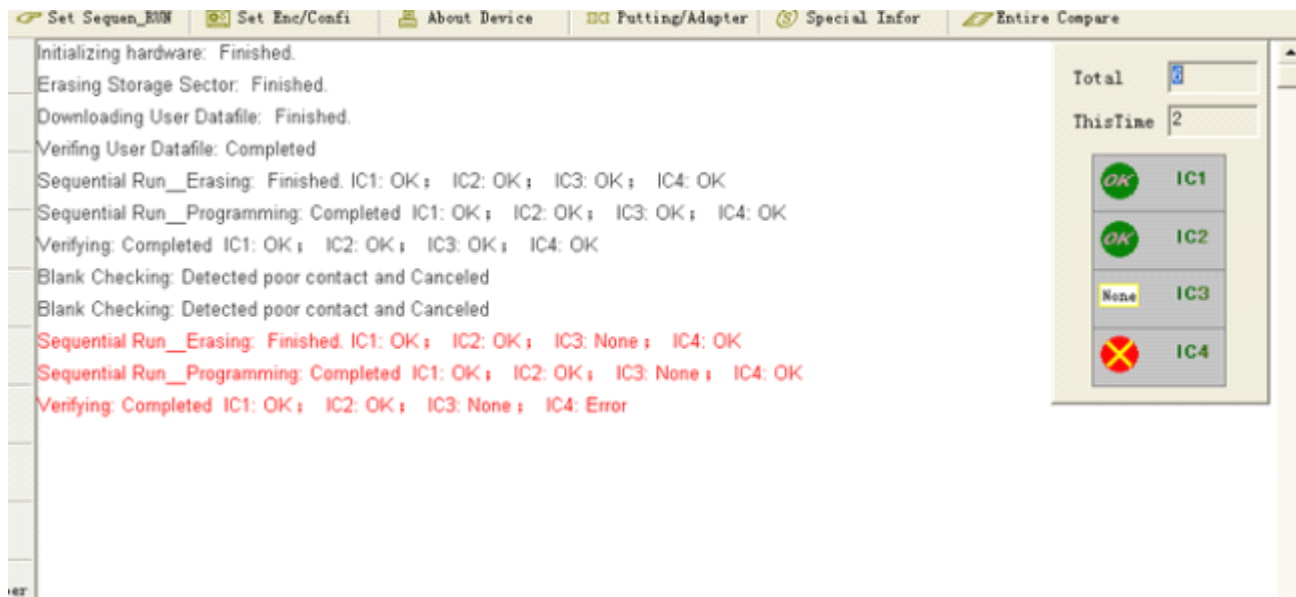
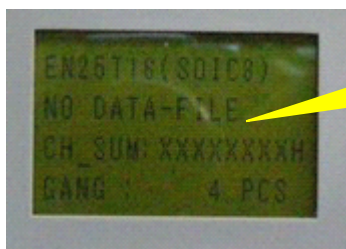


Figure 35 : IC3 none &amp; IC4 Error

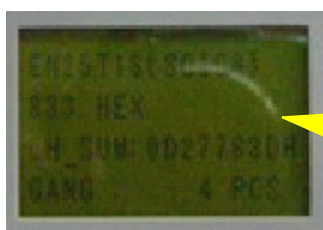
## 7.1.3 Off\_line mode

Following Figures are the some pictures of the LCD:



No data file has been loaded. So no any function can be launched now

Figure 35: LCD Display Selected the device but no data file was loaded



The data file has been loaded. Please check the file name and the Check sum. Now, all of the Off\_line functions can be launched after the USB cable has been removed

Figure 36: LCD Display Selected both the device and the data file

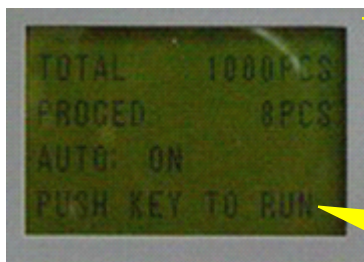
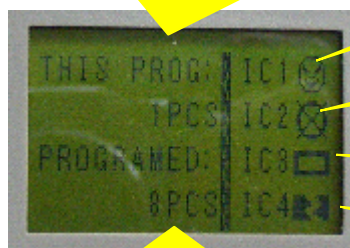


Figure 36 & figure 37 show alternately

After removed the USB cable and push any key, then you can program the devices by K2 or K1.

Figure 37: LCD Display Content of the counter

Only 1 PCS programme OK in this time



IC1: OK

IC2: Error

IC3: None

IC4: bad contact

8 PCS have been programmed in total

Figure 38: LCD Display Result

Before you can use on Off\_line mode,you should do steps 1 to 4. And you should select “Download to hardware with the loading” in the step 3. Otherwise no any operation happen when you push K1 or K2.

After you selected the device and loaded the data file on On\_line mode, the LDC show as Figure 36 & Figure 37. Then you should please remove the USB cable. And then PUSH any K (K1 or K2) to enter the Off\_line mode.

Note : in the future you should push any K to enter Off\_line mode when power up every time.

After entered Off\_line mode, you can put the devices onto the socket according to Figure 21. If the AUTO is “ON” (See Figure 37),the Operation will be launched automatically if all devices have been put and contacted good. Otherwise if the AUTO is OFF, you should push K2 (or K1) to launch the operation after you put the devices onto the socket. Note: Even if the AUTO is ON, you need push the K2(or K1) to launch first operation.